

REMARKS

The Office Action dated January 25, 2006, has been received and carefully noted. The following remarks are submitted as a full and complete response thereto. Claims 1-5, 11, 12 15-18, 27-32, 37 and 39 are submitted for consideration.

As a preliminary matter, Applicants' representative wishes to thank the Examiner for granting an interview and for the courtesy shown during the interview. Applicants note that claim 1 has been amended in accordance with the discussions of the interview and requests that current rejections be withdrawn.

Claims 1, 2, 5, 15, 16, 18, 32, 37 and 39 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,123,883 to Fukaya. The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in independent claim 1.

Claim 1, upon which claims 2-5, 11, 12 15-18, 27-32, 37 and 39 depend, recites a power transmission device which includes an input shaft and an output shaft. The device also includes a plurality of internally meshing planetary gear mechanisms, each including an external gear and an internal gear having external teeth and internal teeth a difference in a number of teeth between which is slight. At least two of the plurality of internally meshing planetary gear mechanisms are disposed in parallel on a path of power transmission and the at least two of the plurality of internally meshing planetary gear mechanisms are different from each other in power transmission characteristics. For the at least two of the plurality of internally meshing planetary gear mechanisms to be

disposed in parallel on a path of power transmission, a plurality of power-transmissible routes through which power can be transmitted must exist between shared members. Factors of the mutually different power transmission characteristics of the two internally meshing planetary gear mechanisms include at least one of rotational resistance, rigidity, and backlash of a rotation system in each mechanism.

According to the present invention, as disclosed on page 5, lines 1-14 of the specification, the phrase “disposed in parallel on a power transmission path” means that a plurality of power transmissible routes through which power can be transmitted exist between shared members (same members). Pluralities of completely independent routes do not necessarily need to exist between the input shaft and the output shaft. In this connection, the phrase “disposed in series on a power transmission path” means that power is transmitted through another route. The number of routes disposed in parallel may be three or more. If a design is made to create a difference in power transmission characteristics between the three or more routes, this is included in the scope of the invention. In the present invention, a plurality of internally meshing planetary gear mechanisms are disposed in parallel on a power transmission path and are designed to create a difference especially in power transmission characteristics in each system. Therefore, in the present invention, it is possible to automatically produce a situation in which only one of the plurality of internally meshing planetary gear mechanism contributes to power transmission, or only the other one contributes to power transmission, or both of them contribute to power transmission in accordance with a

driving situation on that occasion. See at least page 6, lines 6-18 of the present specification.

As will be discussed below, the cited prior art reference of Fukaya fails to disclose or suggest the elements of any of the presently pending claims.

Fukaya relates to an internal meshing type planetary gear changing device made of plastic material. The device has a gear mechanism in which contacts between inner pins and inner pin-holes are smooth and do not interfere with transmission of a torque, with backlashes of the gear mechanism being kept small. In Fukaya, only the inner pins which serve to transmit a torque are brought into contact with inner-pin holes at a predetermined range of contacting location so as to prevent unnecessary contacts between inner pins and inner-pin holes at other locations where no torques is transmitted.

Specifically, Fukaya teaches a planetary gear changing device with an input shaft and an output shaft. Col. 4, lines 31-33 and Figures 1 and 6. The planetary gear changing device includes a multistage planetary gear reducer of the internal meshing type which includes an input shaft, a first external gear and a first internal gear. The input shaft is integrally formed with a disk-like eccentric member. The first external gear is fitted on the eccentric member. The first external gear includes external teeth of trochoidal profile and a plurality of integrally-formed inner pins. A first internal gear includes gear teeth of a circular arc profile which internally mesh with the external teeth of the first external gear. Col. 6, line 29-Col. 7, line 16.

Applicants submit that Fukaya simply does not teach or suggest each of the elements clearly recited in claim 1. Claim 1 recites, in part, that the at least two of the

plurality of internally meshing planetary gear mechanisms are different from each other in power transmission characteristics. Fukaya does not teach or suggest that the at least two of the plurality of internally meshing planetary gear mechanisms are different from each other in power transmission characteristics, as recited in claim 1.

Furthermore, claim 1 recites, in part, that at least two of the plurality of internally meshing planetary gear mechanisms are disposed in parallel on a path of power transmission and are different from each other in power transmission characteristics, wherein for the at least two of the plurality of internally meshing planetary gear mechanisms to be disposed in parallel on a path of power transmission, a plurality of power-transmissible routes through which power can be transmitted must exist between shared members. In the Response to Arguments section, the Office Action alleged that Fukaya teaches “a plurality of transmissible routes because Fukaya discloses that the transmission can be reversed which suggests power paths through the same members.” The Office Action also indicated that Figure 6 of Fukaya teaches mechanisms being disposed in parallel. The Office Action further indicated that Fukaya teaches at least one of rotational resistance, rigidity and backlash, as recited in the present claims, because Fukaya discloses reducing backlash of the rotation system.

As noted above, presently pending claim 1 recites that for at least two of the plurality of internally meshing planetary gear mechanisms to be disposed in parallel on a path of power transmission, a plurality of power-transmissible routes through which power can be transmitted must exist between shared members. Therefore, according to claim 1, the plurality of transmissible routes exists so that at least two of the plurality of

internally meshing planetary gear mechanisms is **disposed in parallel** on a path of power transmission. Hence, the argument presented in the Response to Arguments section by Office Action that Fukaya teaches a plurality of transmissible routers because Fukaya discloses that the transmission can be reversed which suggests power paths through the same members, teaches away from the recitation of claim 1. If as the Office Action suggests Fukaya teaches reversible transmission, then unlike claim 1, at least two of the plurality of internally meshing planetary gear mechanisms **cannot be disposed in parallel** on a path of power transmission. Therefore, Applicants submit that Fukaya does not teach or suggest at least two of the plurality of internally meshing planetary gear mechanisms to be disposed in parallel on a path of power transmission, a plurality of power-transmissible routes through which power can be transmitted must exist between shared member, as recited in claim 1.

As previously noted, Page 5, lines 1-4 of the present invention states that “the phrase “disposed in parallel on a power transmission path” means that a plurality of power-transmissible routes through which power can be transmitted exist between shared members (same members).” According to page 5, lines 4-6 of the present invention, a plurality of completely independent routes do not necessarily need to exist between the input shaft and the output shaft. Thus, page 5, lines 6-9 of the present invention states that “in this connection, the phrase “disposed in series on a power transmission path” means that power is transmitted through a route and, after that, is transmitted through another route.” Page 5, lines 10-14 of the present invention further states that the number of routes disposed in parallel may be three or more and if a design is made to create a

difference in power transmission characteristics between at least two of the three or more routes, this is included in the scope of the present invention. Based on the information described above from the present invention and recited in claim 1, Applicants submit that Fukaya teaches and shows that two mechanisms are disposed in series on a power transmission path. In the present invention as recited in claim 1, on the other hand, at least two of the plurality of mechanism must be disposed in parallel on the power transmission path. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §102(b) should be withdrawn because Fukaya simply fails to teach or suggest each of the features of claim 1 and hence dependent claims 2, 5, 15, 16, 18, 32, 37 and 39 thereon.

The Office Action indicated that claims 3, 4, 11-12 and 27-31 would be allowable if placed in independent form. Based on the arguments presented above, Applicants submit that each of claims 3, 4, 11-12 and 27-31 is allowable in its present form.

Claims 1, 2, 5, 15, 16-18, 32, 37 and 39 were also rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,651,747 to Minegishi. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claim 1.

As will be discussed below, the cited prior art reference of Minegishi fails to disclose or suggest the elements of any of the presently pending claims.

Minegishi discloses a device which includes a plurality of internally meshing planetary gear mechanisms that are disposed in parallel to increase transmission capacity, which is well known. Specifically Minegishi teaches that reduction gears of a geared

motor adopt a planetary changing mechanism which includes an input shaft, external gears, output shaft and internal gears. Col. 15, line 27- Col 15, line 37 and Figures 8 and 9.

Applicants submit that Minegishi simply does not teach or suggest each of the elements of claim 1. Claim 1 recites, in part, that the at least two of the plurality of internally meshing planetary gear mechanisms are different from each other in power transmission characteristics. Minegishi does not teach or suggest that the at least two of the plurality of internally meshing planetary gear mechanisms are different from each other in power transmission characteristics, as recited in claim 1.

As noted above, claim 1, in part, also recites that at least two of the plurality of internally meshing planetary gear mechanisms are disposed in parallel on a path of power transmission and are different from each other in power transmission characteristics, wherein factors of the mutually different power transmission characteristics of the two internally meshing planetary gear mechanisms include at least one of rotational resistance, rigidity, and backlash of a rotation system in each mechanism. In the Response to Arguments section, the Office Action alleged that Minegishi teaches at least one of rotational resistance, rigidity and backlash because Minegishi discloses high rigidity of the rotation system.

Minegishi's device includes the 1st and 2nd paths of power transmission between input shaft 530 and inner pin 514 which correspond to "shared members." The 1st path of power transmission includes input shaft 530, eccentric body 570A, bearing 574A, external gear 576A and inner pin 514. The 2nd path of power transmission includes input

shaft 530, eccentric body 570B, bearing 574B, external gear 576B and inner pin 514. However, Applicants submit that in Minegishi's device, the rotational resistance of the 1st path of power transmission and that of the 2nd path of transmission is the same on a design. The rigidity of the 1st path of power transmission and that of the 2nd path of transmission is also the same on a design. The backlash of the 1st path of power transmission and that of the 2nd path of transmission is also the same on a design. Therefore, in Minegishi, the 1st path of power transmission and the 2nd path of power transmission have the same power transmission characteristic concerning any one of the three factors (rotational resistance, rigidity, and backlash) on a design. As such, Applicant submit that there is simply no teaching or suggestion in Minegishi that factors of the mutually different power transmission characteristics of the two internally meshing planetary gear mechanisms include at least one of rotational resistance, rigidity, and backlash of a rotation system in each mechanism, as recited in claim 1. Therefore, Applicants respectfully assert that the rejection under 35 U.S.C. §102(b) should be withdrawn because Minegishi simply fails to teach or suggest each of the features of claim 1 and hence dependent claims 2, 5, 15, 16-18, 32, 37 and 39 thereon.

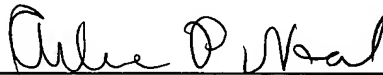
As noted previously, claims 1-5, 11, 12 15-18, 27-32, 37 and 39 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-5, 11, 12 15-18, 27-32, 37 and 39 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by

telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Arlene P. Neal
Registration No. 43,828

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

APN:kmp

Enclosures: Petition for a Three-Month Extension of Time
Check No. 14762